Is The 5 Second Rule Actually True? The Facts That May Surprise You Transcript

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Introduction to the Five-Second Rule

Have you ever eaten a French fry off the floor and told yourself, well, it's still safe. It was less than five seconds. So sure, it must be okay. And even if bacteria got on the food, is that absolutely such a bad thing?

I really do want that French fry. Well, what does the evidence tell us? Let's find out. Welcome my dear listeners to episode 55, the five second food rule, safe to eat or misguided.

There are so many wonderful health sayings like the five second rule. Well, chicken soup can cure your cold. Starve a cold, feed a fever. Or is it the other way around?

Don't swim after eating or you'll drown. If your feet are cold, put on a hat and so many, many more. Are these true or false? Today, I start a new episode type to answer questions like these.

These episodes, these fun episodes, will be sprinkled in with my usual topics. Of course, I need feedback from you. Let me know if you enjoy these episodes.

They're likely to be shorter than my usual ones and a bit bite-sized and definitely with a more limited amount of critical evidence to answer some of these questions.

Why This Episode Format Exists

As always, I love feedback. Include your email when you send me a text or otherwise, and do tell others about the podcast. If you have some favorite sayings or myths to explore, by all means, send them my way.

Now, this fascination of questions like this is not new for me. When I went to medical school, I was fascinated by quirks of the human body. Like why do we hiccup?

What is your funny bone? What happens when your foot falls asleep? So as I went through each of the classes in medical school and there were professors talking about related topics, I would interview them and find out what was the answer to these questions.

I even started writing a book. This was a long, long time ago where you didn't have chat GPT or anything else to help you. But I never really got too far with the book.

Medical school took its toll and away I went on my career. But I've always been fascinated by common things that affect us. Now, if you would like, I can include some of these episodes as well about what is going on in our body and what is a burp?

What are all these things you might be interested in? Let me know. I can sprinkle them in any time as well. So the plan for the day on the five second rule is part one.

What is the evidence on this topic? What does happen when food falls for five seconds or less? Second part, well, yeah, but are floor bacteria a problem even if it picked up some of those bugs?

Food Safety Risks and Common Pathogens

Might those bugs actually be beneficial in some way? Now jumping ahead, the five second rule does not apply if you are immunocompromised, pregnant, or the french fry falls to the floor in a hospital.

These can be scary bugs in the hospital that all of us need to worry about. So food and food safety is really

important. There are 48 million foodborne illnesses every year.

About 128,000 people get hospitalized with one of them, and about 3,000 people die each year. Now, typically, the bugs you hear about are salmonella, E.

coli, campylobacter, toxoplasmosis, listeria, and norovirus. For most people, when they have a foodborne illness, it's going to be a GI problem. You're going to have diarrhea, cramps, vomiting.

But for some people, if you get a severe case, it can be systemic. You can have fever, you can have sepsis, and again, even death can occur, especially in the elderly, the very, very, very, very young, and the immunocompromised.

Keep in mind that food doesn't need to fall on the floor. Even the kitchen counter can have some of these contaminants, as we'll talk about. If the chicken's raw, if there's other raw meats, and even tainted vegetables have been problematic at times.

So the five second rule, although it's humorous at some level, is also very important to explore. OK, part one, the evidence. What do we know? Now for these health sayings, these little episodes we're going to do together, they're likely won't be perfect evidence.

And they're likely to be smaller studies. So unlike when we talk about sleep or we talk about the impact of sauna, where there's lots of studies, often big studies, these kind of fun topics, I don't anticipate there'll be a huge body of evidence about chicken soup or things like that.

But, as always, I will review the evidence that's there and I'll try to summarize it in ways that might be useful for you.

The Rutgers Study and the Five-Second Rule

Okay, so in this area, there are a few studies. The classic study that everybody refers to is called the Rutgers study because it was done at Rutgers.

The study, as we might hope, took various foods and dropped them on surfaces. Then they put them in Petri dishes to see what grew. Did any bacteria grow?

And they varied their experiments by contact time, meaning what happens in less than a second, what happens at five seconds, 30 seconds, 300 seconds. They also varied the type of surface.

Well, maybe it fell on tile, maybe it fell on wood, maybe it fell on stainless steel, steel or carpet. So they tested those various things. And then they varied the foods, wondering if certain foods picked up bacteria more readily than others, things like watermelon, Bread by itself, bread with butter and gummy candy.

I of course would have been fascinated by bread with peanut butter since that's one of my favorites, but we just have to extrapolate from bread with butter.

All right, what did they find? And really the study asked the questions I would want it to. Now, obviously if it had been duplicated in three or four or five other labs around the country and published, that would have been better.

But what do we learn? We learned that the five second rule is not correct, that plenty of bacteria will transfer to the food within a second. Now, if you leave it on the ground longer, more bacteria will go on to the food, but within five seconds, a whole lot gets transferred.

So the five second rule is not correct. I'm starting something new. If you guys have a better name, let me know. For the moment, I'm calling it the verdict meter.

So on this issue of whether the five second rule means that bacteria won't get on your bread or whatever, the verdict meter says a resounding false. Turns out when you dig below the surface, watermelon was the worst, probably because it had a lot of moisture.

Bread and bread and butter were the same, so the butter didn't seem to make it worse than just bread by itself. And gummies caught the least amount of bacteria.

And carpet might be safer than these other surfaces. So if you drop a gummy on carpet, perhaps go for it. Again, the caveats I said earlier still apply.

Okay, so now we know the five second rule doesn't work. Bacteria will absolutely get on your food. Part two, is that such a bad thing if in fact bacteria get on our food?

In prior episodes we talked about peanuts and how the pendulum swung from peanuts are fine in kids when they're very young to oh no no no that causes peanut allergies Don't give your kids peanuts.

Could Bacteria Exposure Be Beneficial?

Well, then we had a whole decade of kids with peanut allergies who weren't exposed to peanuts. And now the pendulum has gone back to, you know, you ought to expose your kid to peanuts.

So there may be something about early exposure that is potentially beneficial. Obviously, we've got to find the evidence, not just for peanuts. We need to go other things.

Okay, so here's the question. Perhaps early exposure, meaning early exposure by young kiddos to diverse bacteria, so they're exposed to a lot of different bugs.

Now, these are not cholera bugs, these are just regular garden variety bugs that you might run across. And is it good for you to be exposed when you are young?

Now, we think we want a diverse microbiome, lots of different bugs all playing nicely together on our skin, in our gut, in our mouth. So what do we know?

Well first, there was a New England Journal of Medicine study that compared kids who grew up on farms with kids who grew up in the city. And you might think that kids that were growing up on the farm were exposed to all sorts of organisms if they're caring for the chickens or being exposed to things like that.

So in this study, they collected dust samples and mattress samples from the kids that were living in the city and the kids that were living on the farm.

So what did they find? They found that the farm kids were exposed to a lot more biodiversity. So the dust and other things had lots of different bacteria and things in it, more so than the kids that lived in the cities.

But what did that mean? Well when they looked at those kids later on there was a lower risk of asthma and and eczema and other atopic illnesses in those kids who lived on the farm.

So they had a 20 to 40 percent lower rate of these illnesses having grown up on the farm. Is this cause and effect? We don't know, but it's an interesting study.

And it would suggest that being exposed to a diversity of non-life-threatening bugs might be a good thing when you're young. Okay, second study. And I was just amazed that somebody had done this study because it's exactly what you might want to do.

And somebody actually did it. So, this is a set of investigators in Finland and they found 10 daycare centers. Some were in an urban environment that had not a grassy play area for the kids but you know maybe it was cement or

other kinds of things.

So they took half of these urban centers and remove the old play area and replaced it with dirt and with sod with grass. So now we have half of the daycare centers having the more traditional non kind of outdoorsy environment and ones now that had the dirt and the sod and they measured bacteria on their skin and their gut and they also looked at blood samples and immune blood markers.

What did they find?

Final Takeaways and Personal Verdict

Well, the kids in the daycare center where they replaced the play area with dirt and sod and grass found they had more bacterial diversity on their skin, they had more gut bacteria diversity, and even their immune markers changed suggesting a more stimulated immune set of pathways.

Now they didn't look at who got more infections later in life, But this was very interesting that again being exposed to benign non-pathogenic bacteria might be helpful.

All right, part three. What the heck do I take from all of this? My take, look, I wouldn't eat food that dropped on a hospital floor for all the pathogens that might be there.

I wouldn't eat food that dropped at a 7-eleven because there's a lot of traffic of people coming from the outdoors with their shoes and everything else.

And absolutely be really careful if you're immunocompromised or pregnant or very elderly or very, very young. Otherwise, what do I do? I follow personally the five second rule.

I'll even stretch it to a 20 second rule. We have three Vichla dogs. So I know there's a lot of dirt on the floor at times and there's a lot of stuff they probably track in.

And we live at Madrone Springs Ranch, our exotic animal bed and breakfast place where we have also a lot of guests. So I know I'm probably exposed to a lot of stuff.

In spite of that, I don't worry too much when food drops at home. Now, when I'm out in some of the places I talked about, okay, different, different story.

Wrap up time. The verdict meter for the five second rule is a resounding false. Bugs transfer almost instantaneously. But the interesting question is so what?

Perhaps having some bacteria or such on your food might not necessarily be a bad thing. Again, the studies were mostly done around kids in this regard.

So we don't really know for the standard American adult what that means. Tell me what you think and what you do about all of this. Do you live by the five second rule or not?

Until next time, I hope you live long and well and you enjoy your food and may your favorite food not fall on the floor where you will have to make that difficult decision.